

Peer Review

Review of: "ColonNet: A Hybrid of DenseNet121 and U-Net Model for Detection and Segmentation of GI Bleeding"

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Review Comments:

This paper presents a hybrid model that combines classification, detection, and segmentation techniques for medical image analysis. However, several aspects need further clarification and improvement:

1. **Justification for the Hybrid Model:** The authors propose a hybrid model that integrates classification, detection, and segmentation. However, the paper does not sufficiently explain why combining these three tasks is necessary and how this combination improves upon existing methods. To strengthen the paper, the authors should provide a clearer explanation of the advantages of integrating these three tasks. For example, how does combining classification, detection, and segmentation help the model capture more comprehensive features of the images? A more detailed explanation of this hybrid model would help readers understand its unique contribution and clarify why this approach is superior to single-task models.
2. **Comparison with Other Results:** The abstract mentions that the model achieved the best performance in a competition, which is an impressive result. However, the results section should provide a detailed comparison with other models or benchmarks. Specifically, the authors should include comparisons with other classification, detection, and segmentation methods and provide clear performance metrics (such as accuracy, IoU, or F1-score) to quantify the performance of each task. These comparisons will help readers better evaluate the novelty and superiority of the proposed model.

3. Performance on Test Dataset 1 (Small Bleeding Areas): The model performs relatively poorly on Test Dataset 1, especially in terms of segmentation accuracy, where small bleeding areas are present. This raises concerns about the model's robustness when handling small lesions or subtle abnormalities. The authors should explore why the model underperforms on this dataset and propose potential improvements or modifications to address this specific weakness.

Declarations

Potential competing interests: No potential competing interests to declare.